ScienceDirect

Current Problems in Cancer
Volume 45, Issue 5, October 2021, 100712

Prognostic factors and survival outcomes of women with uterine leiomyosarcoma: A Turkish Uterine Sarcoma Group Study-003

Ali Ayhan [a], Kemal Gungorduk [b], Ghanim Khatib [c], Zeliha Fırat Cüylan [d], Nurettin Boran [e], Mehmet Gökçü [f], Hüsnü Çelik [g], Nejat Özgül [h], Özgür Akbayir [i], Tayup Şimşek [j], Abdülkadir Bakay [k], Mehmet Faruk Köse [l], Mehmet Tunç [a], Ümran Küçükgöz Güleç [c], Sevgi Koç [e], Esra Kuşçu [a], Mehmet Ali Vardar [c], Hüseyin Akilli [a], Cagatay Taskiran [m], Mehmet Mutlu Meydanlı [d]

Show more

https://doi.org/10.1016/j.currproblcancer.2021.100712
Get rights and content

Abstract

To assess the clinicopathological features, prognostic factors, and survival rates associated with uterine leiomyosarcoma (uLMS). Databases from 15 participating gynecological oncology centers in Turkey were searched retrospectively for women who had been treated for stage I-IV uLMS between 1996 and 2018. Of 302 consecutive women with uLMS, there were 234 patients with Federation of Gynecology and Obstetrics (FIGO) stage I disease and 68 with FIGO stage II-IV disease. All patients underwent total hysterectomy. Lymphadenectomy was performed in 161 (54.5%) cases. A total of 195 patients received adjuvant treatment. The 5-year disease-free survival (DFS) and overall survival (OS) rates were 42% and 54%, respectively. Presence of lymphovascular space invasion (LVSI), higher degree of nuclear atypia, and absence of lymphadenectomy were negatively correlated with DFS, while LVSI, mitotic count, higher degree of nuclear atypia, FIGO stage II-IV disease, and suboptimal surgery significantly decreased OS. LVSI and higher degree of nuclear atypia appear to be prognostic indicators for uLMS. Lymphadenectomy seems to have a significant effect on DFS but not on OS.

Introduction

Malignant mesenchymal tumors of the uterine corpus are rare neoplasms accounting for an estimated 3%-7% of uterine cancers, with an incidence of about 0.4 per 100,000 women.[1] Traditionally, it was recognized that almost 50% these tumors were leiomyosarcomas (LMS).[1,2] Uterine leiomyosarcoma (uLMS) arises de novo or from pre-existing fibroids and accounts for approximately 1% of all female genital tract cancers.[1]

Uterine LMS has aggressive tumor biology and is associated with a significant risk of recurrence and death regardless of the stage at diagnosis compared with other uterine cancers.1, 2, 3, 4, 5, 6 Preoperatively, it is

difficult to distinguish these lesions from benign uterine leiomyoma due to the similarities in signs and symptoms. Moreover, no imaging modalities have been shown to be able to accurately differentiate between the 2 diagnoses. Endometrial biopsy is also not reliable for preoperative diagnosis of these diseases. Thus, diagnosis of uLMS is often incidental, mostly during routine hysterectomy for benign uterine leiomyoma.[7]

Total hysterectomy and debulking of the tumor if obvious extrauterine spread has occurred is a well-established treatment strategy.1, 2, 3, 4 However, the role of bilateral salpingo-oophorectomy and lymphadenectomy is controversial. Moreover, due to its rarity, our understanding of this disease is still limited, and effective adjuvant treatment regimens for use in the postoperative period remain uncertain.1, 2, 3, 4, 5, 6, 7

The present study was performed to review retrospectively the clinical characteristics, surgical management, and surgical outcomes, and to identify prognostic factors affecting survival in patients with uLMS treated at gynecologic oncology departments in Turkey.

Section snippets

Methods

This multi-institutional retrospective study was conducted at 15 gynecological oncology centers in Turkey between January 1996 and December 2018. The study protocol was approved by the local institutional review boards of all participating institutions. All patients provided informed consent on admission regarding the use of their medical information for research purposes. Clinical data were collected from medical, surgical, pathological (lymphovascular space invasion [LVSI], mitotic counts,…

Results

Among 319 cases of pathologically confirmed uLMS, there were 17 women with inadequate clinical data, and therefore, 302 women with uLMS were analyzed with regard to clinical features and prognosis. Demographic and clinicopathological information of all women included in the study are shown in Table1. The median age of the entire cohort was 51 years (range: 21-78 years) and most of the women were postmenopausal (55.6%). The most frequent symptoms in postmenopausal women were postmenopausal…

Discussion

It is difficult to conduct prospective trials in patients with uLMS because of the rarity of this type of uterine sarcoma. This disease may be misdiagnosed as uterine leiomyoma prior to surgery due to a lack of characteristic imaging and clinical manifestations. However, despite progression in tumor screening and management options over the past several decades, less progress has been made with regard to uLMS.

This multicenter retrospective study was performed to investigate the current clinical …

Conflict of interest

The authors have no conflicts of interest relevant to this article.…

Funding

None.…

Acknowledgment

This study did not receive pharmaceutical company support.…

References (27)

B.L. Seagle *et al.*
Prognosis and treatment of uterine leiomyosarcoma: a National Cancer Database study
Gynecol Oncol (2017)

RL Giuntoli *et al.*
Retrospective review of 208 patients with leiomyosarcoma of the uterus: prognostic indicators, surgical management, and adjuvant therapy
Gynecol Oncol (2003)

K Takehara *et al.*
Clinical status and prognostic factors in Japanese patients with uterine leiomyosarcoma
Gynecol Oncol (2020)

M Mannelqvist *et al.*
Gene expression patterns related to vascular invasion and aggressive features in endometrial cancer
Am J Pathol (2011)

K Mayerhofer *et al.*
Leiomyosarcoma of the uterus: a clinicopathologic multicenter study of 71 cases
Gynecol Oncol (1999)

TA Dinh *et al.*
The treatment of uterine leiomyosarcoma. Results from a 10-year experience (1990-1999) at the Massachusetts General Hospital
Gynecol Oncol (2004)

SH Chae *et al.*
Effect of adjuvant therapy on the risk of recurrence in early-stage leiomyosarcoma: a meta-analysis
Gynecol Oncol (2019)

F.J. Major *et al.*
Prognostic factors in early-stage uterine sarcoma. A gynecologic oncology group study
Cancer (1993)

D.S. Kapp *et al.*
Prognostic factors and survival in 1396 patients with uterine leiomyosarcomas: emphasis on impact of lymphadenectomy and oophorectomy
Cancer (2008)

S. George *et al.*
Soft tissue and uterine leiomyosarcoma

J Clin Oncol (2018)

View more references

Cited by (4)

Prognostic significance of lymphadenectomy in uterine leiomyosarcomas and endometrial stromal sarcomas: Systematic review and meta-analysis

2022, European Journal of Obstetrics and Gynecology and Reproductive Biology

Citation Excerpt :

…The results confirmed that lymphadenectomy may be safely omitted from the treatment course of patients with early-stage (I–II) uLMS, and was not associated with improved prognosis. This is consistent with the results of previous reports [19,20]. Seagle et al. [16] conducted a 15-year cohort study of 7455 patients with uLMS in the USA National Cancer Database – to the present authors' knowledge, this is the study with the largest sample of women with uLMS – and found no significant correlation between the omission of lymph node resection and patient prognosis.…

Show abstract

Clinicopathological characteristics and prognosis of uterine sarcoma: A retrospective 10-year single-center study in China

2023, ResearchSquare

Role of lymph node involvement and lymphadenectomy in patients with different subtypes of uterine sarcoma: a systematic review and meta-analysis

2023, ResearchSquare

An Extremely Rare Case of Disseminated Peritoneal Leiomyomatosis with a Pelvic Leiomyosarcoma and Omental Metastasis after Laparoscopic Morcellation: Systematic Review of the Literature

2022, Diagnostics

Recommended articles (6)

Research article

Effects of acetylsalicylic acid on the levels of sulfane sulfur and non-protein sulfhydryl groups in mouse tissues

Pharmacological Reports, Volume 65, Issue 1, 2013, pp. 173-178

Show abstract

Research article

Prognostic significance of tumor multifocality on outcomes in patients with upper tract urothelial carcinoma after radical nephroureterectomy: A cohort study

Current Problems in Cancer, Volume 45, Issue 6, 2021, Article 100747

Show abstract

Research article

Primary adrenal diffuse large B cell lymphoma arising within an adrenal myelolipoma: A case report and review of the literature

Current Problems in Cancer, Volume 45, Issue 6, 2021, Article 100724

Show abstract

Research article

Brigatinib-induced tuberculosis reactivation: A case report

Current Problems in Cancer, Volume 45, Issue 6, 2021, Article 100738

Show abstract

Research article

ABCC3 and *GSTM5* gene polymorphisms affect overall survival in Polish acute myeloid leukaemia patients

Current Problems in Cancer, Volume 45, Issue 5, 2021, Article 100729

Show abstract

Research article

Conventional cardiac risk factors associated with trastuzumab-induced cardiotoxicity in breast cancer: Systematic review and meta-analysis

Current Problems in Cancer, Volume 45, Issue 5, 2021, Article 100723

Show abstract

View full text